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Stewardson, Donald; Correia, Carlos; Horner, Allen;  
McLaughlin, James

Monterey, California. Naval Postgraduate School

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## JOINT APPLIED PROJECT

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**The Challenges Associated with Accounting for the Army's Force Provider System when Deployed in Support of Military Operations**

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By:     **Carlos Correia, Allen Horner,  
James McLaughlin, and Donald Stewardson**  
**September 2008**

Advisors:     **Brad Naegle,  
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**REPORT DOCUMENTATION PAGE**
*Form Approved OMB No. 0704-0188*

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.

<b>1. AGENCY USE ONLY (Leave blank)</b>	<b>2. REPORT DATE</b> September 2008	<b>3. REPORT TYPE AND DATES COVERED</b> Joint Applied Project	
<b>4. TITLE AND SUBTITLE</b> The Challenges Associated with Accounting for the Army's Force Provider (FP) System when Deployed in Support of Military Operations		<b>5. FUNDING NUMBERS</b>	
<b>6. AUTHOR(S)</b> Carlos Correia, MAJ Allen Horner, James McLaughlin, and Donald Stewardson			
<b>7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)</b> Naval Postgraduate School Monterey, CA 93943-5000		<b>8. PERFORMING ORGANIZATION REPORT NUMBER</b>	
<b>9. SPONSORING /MONITORING AGENCY NAME(S) AND ADDRESS(ES)</b> N/A		<b>10. SPONSORING/MONITORING AGENCY REPORT NUMBER</b>	
<b>11. SUPPLEMENTARY NOTES</b> The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.			
<b>12a. DISTRIBUTION / AVAILABILITY STATEMENT</b> Approved for public release; distribution is unlimited		<b>12b. DISTRIBUTION CODE</b>	
<b>13. ABSTRACT (maximum 200 words)</b> The objective of this project is to research and analyze the consequences of deploying an end item system consisting of a myriad of components that have warfighter utility outside of the Force Provider (FP) system design. The analysis will address the inherent challenges associated with accountability of the FP System when deployed and decommissioned to undergo RESET, the lack of a singular management and decision-making authority to control the system from production through deployment, and the financial implications that occur when the integrity of the FP System is lost due to re-distribution of major components throughout the battlefield. As a result of this project, the FP product office, Army leadership and the using organizations will all understand the necessity to maintain complete accountability and integrity of the FP System throughout its deployment and decommissioning cycle. This may also result in decisions that could minimize the financial burden to the Army due to components that are lost to operational commanders who decide to keep some FP components, which must be reprocured for RESET.			
<b>14. SUBJECT TERMS</b> Force Provider, RESET, Accountability, Modules, LOGCAP, Logistics, City in a Box, Property Book, TAT, Technical Assistance Teams, ILSC, Natick, PM Force Sustainment Systems, PBUSE, AMC, G4		<b>15. NUMBER OF PAGES</b> 69	
<b>16. PRICE CODE</b>			
<b>17. SECURITY CLASSIFICATION OF REPORT</b> Unclassified	<b>18. SECURITY CLASSIFICATION OF THIS PAGE</b> Unclassified	<b>19. SECURITY CLASSIFICATION OF ABSTRACT</b> Unclassified	<b>20. LIMITATION OF ABSTRACT</b> UU

NSN 7540-01-280-5500

 Standard Form 298 (Rev. 2-89)  
 Prescribed by ANSI Std. Z39-18

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**THE CHALLENGES ASSOCIATED WITH ACCOUNTING FOR THE ARMY'S  
FORCE PROVIDER SYSTEM WHEN DEPLOYED IN SUPPORT OF  
MILITARY OPERATIONS**

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Submitted in partial fulfillment of the requirements for the degree of

**MASTER OF SCIENCE IN PROGRAM MANAGEMENT**

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# **THE CHALLENGES ASSOCIATED WITH ACCOUNTING FOR THE ARMY'S FORCE PROVIDER SYSTEM WHEN DEPLOYED IN SUPPORT OF MILITARY OPERATIONS**

## **ABSTRACT**

The objective of this project is to research and analyze the consequences of deploying an end item system consisting of a myriad of components that have warfighter utility outside of the Force Provider (FP) system design. The analysis will address: the inherent challenges associated with accountability of the FP System when deployed and decommissioned to undergo RESET; the lack of a singular management and decision-making authority to control the system from production through deployment; and the financial implications that occur when the integrity of the FP System is lost due to redistribution of major components throughout the battlefield. As a result of this project, the FP product office, Army leadership and the using organizations will all understand the necessity to maintain complete accountability and integrity of the FP System throughout its deployment and decommissioning cycle. This may also result in decisions that could minimize the financial burden to the Army due to components that are lost to operational commanders who decide to keep some FP components, which must be reprocured for RESET.

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## **LIST OF ACRONYMS AND ABBREVIATIONS**

AAA	Army Audit Agency
AARs	After Action Reviews
AMC	Army Materiel Command
AO	Area of Operations
AOR	Area of Responsibility
APOE	Aerial Port of Embarkation
AR	Army Regulation
CJCSI	Chairman of the Joint Chief Chiefs of Staff Instruction
CONUS	Continental United States
DoD	Department of Defense
DoDI	Department of Defense Instruction
DA PAM	Department of the Army Pamphlet
FAR	Federal Acquisition Regulation
FM	Field Manual
FP	Force Provider
FY	Fiscal Year
GWOT	Global War on Terror
ILSC	Integrated Logistics Support Center
ISO	International Organization for Standardization
LDD	Loss, Damage or Destruction
LIN	Line Item Number
MWR	Morale, Welfare and Recreation
MNS	Mission Needs Statement
NSN	National Stock Number
OEF	Operation Enduring Freedom
OIF	Operation Iraqi Freedom
OSD	Office of the Secretary of Defense
PBUSE	Property Book Unit Supply Enterprise
PM FSS	Product Manager Force Sustainment Systems
RIP/TOA	Relief-In-Place/Transfer of Authority
ROD	Report of Discrepancy
R&R	Rest and Refit
SoS	System of Systems
SPOE	Sea Port of Embarkation
SWRS	Shower Water Re-use System
TAT	Technical Assistance Team
TAV	Total Asset Visibility
TRICON	Triple Container

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## **I. INTRODUCTION**

### **A. PURPOSE**

This Joint Applied Project examines the accountability challenges faced by the Army when deploying and redeploying a personnel support package of modularized equipment, known as Force Provider (FP), in support of both military and humanitarian operations. The Force Provider systems and components are designed to provide billeting, laundry, shower, food and latrine services to deployed personnel. A more detailed description of FP is provided later in the research project.

This project evaluates the FP deployment sequence. It begins with the initial transfer of equipment from War Reserve storage to the operational users, and continues analysis through redeployment, RESET (conducting maintenance and replacing missing or unserviceable components), and return to War Reserve. The analysis determines whether the existing Army rules and procedures for property accountability are effective with the FP property concept, and whether FP using organizations are effectively implementing accountability guidance. In addition, the analysis determines whether the FP property accountability design impacts the Army goal to maintain total asset visibility (TAV) of the major subcomponents. Finally, the analysis considers whether FP deployment and accountability practices result in a financial burden and equipment loss to the Army. This effort is undertaken to produce recommendations for future FP System deployments, including the enforcement of an acceptable accountability process. In addition, conclusions and recommendations may also provide insights for significant FP RESET cost avoidance because enhanced accountability may reduce FP component reprocurement.

### **B. SCOPE AND METHODOLOGY**

This Joint Applied Project explores the deployment, operation, redeployment, and RESET of the FP system. It identifies the successes, failures and challenges of accounting for the system in each of these phases. The study focuses on After Action Reviews (AARs), published articles on past deployments, Army accountability

regulations requiring asset management and TAV, historical RESET cost growth trends, and programmatic impacts to effectively managing the FP life cycle. Finally, recommendations based on the analysis are made to ensure the FP system accountability process is sufficiently robust to be implemented with each future deployment of the system.

## C. RESEARCH QUESTIONS

### 1. Primary Question

- What are existing U.S. Army property accountability rules and procedures concerning the Force Provider property system, and how is accountability guidance communicated to and complied with FP-using organizations?

### 2. Subsidiary Questions

- To what extent is Force Provider (FP) a *system of systems* (SoS), and how effective are accountability procedures in terms of accomplishing accountability goals and adapting to changing environmental factors?
- How does *not* accounting for FP items at the component level affect the FP system?
- How is FP *ownership* described and operationalized?
- What is the financial impact of losing FP components to operational commanders?
- How are FP utilization decisions described and operationalized when deployed?

## D. METHODOLOGY

The study included three phases: 1) Review of all pertinent data on the FP system design, mission and use, 2) Analysis of both the current accountability process and the high cost of accountability failures, 3) Recommendations on the appropriate accountability procedures necessary to maintain total system accountability, from deployment through redeployment.

## **E. ORGANIZATION**

Chapter I introduces the research topic. Chapter II provides background information on FP, which includes the mission, definition of FP, employment strategy, ownership of FP when deployed, components of the system, de-processing requirements, and efforts undertaken to RESET the system to full operational condition. Chapter III provides data on the accountability process, the financial impacts of current accountability practices, lessons learned from technical assistance team (TAT) visits to the area of responsibility (AOR), findings on who can make utilization decisions for FP when deployed, and the resulting damage to the Army equipment posture when component accountability fails. Chapter IV provides an analysis of the data discussed in Chapter III, as well as conclusions and recommendations designed to ensure total system accountability throughout the FP deployment process.

## **F. EXPECTED BENEFITS**

This project identifies and recommends appropriate actions for the accountability of the FP system. This effort will serve as either a validation to the current accountability practices or as an indicator of potential problems that may continue to hamper the ability of the Army to account effectively for the FP system. Additionally, if problem areas do exist, the recommendations offered will enable the systems developers and life cycle managers to make the necessary adjustments or corrections to ensure successful accountability of FP in the future.

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## II. BACKGROUND

### A. ARMY FORCE PROVIDER (FP) SYSTEM OVERVIEW

The U.S. Army Force Provider (FP) system is a War Reserve asset created after Operations Desert Shield/Storm (1991) to modernize defense personnel field living conditions. Previously, there was a marked disparity between how the Army and Air Force personnel lived in field conditions. For example, although collocated in the same camp — Camp Eagle in Saudi Arabia — a 12-foot wall separated Army and Air Force personnel. The former lived in predominantly non-air conditioned, cotton-style Bedouin tents, and showered in hastily built facilities open to the elements, including plywood latrines with 55-gallon drum cutouts. On the other side of the wall, Air Force personnel rested in climate-controlled tents with better-built and enclosed showers and latrines.

To improve soldiers' living conditions in austere environments, and to resolve the inequity described above, the Army Chief of Staff (General Gordon Sullivan) directed development of a containerized, deployable capability. Since deployment in 1994, accountability issues emerged, so supply accountability procedures and inventory requirements were implemented to ensure visibility of system components during and after deployment. The following sections describe the main components and processes of the FP system: Mission/mandate guidance; Components; Operational user employment strategies, Accountability and ownership requirements; and Deprocessing and return processes including actions to RESET the system.

#### 1. Force Provider Mission and Mission-Creep

The overarching Force Provider (FP) mission is to support the rest and refit (R&R) of defense personnel living and operating in field and overseas conflict zones. The system was designed to provide a relatively full spectrum of life-support capability for 600 occupants, including living quarters, showers, laundry and meals. It is generally accepted knowledge that the FP system experienced early and sustained "mission-creep," revealed by the following indicators: (1) Systems used as reception points for personnel entering a theater of operations; (2) Systems used as intermediate staging bases for units

transitioning to operational areas; (3) Systems served as temp-facilities supporting natural disaster relief efforts; (4) Systems used to support humanitarian operations per military command authority; and (5) Systems used as redeployment facilities to house and process soldiers prior to boarding aircraft for return to CONUS. Surprisingly, even with mission accumulation/fragmentation, the overall mission appears to have remained relatively stable.

Instead of deploying the entire system (600-person camp), FP components can be selected separately and shipped overseas on an as-needed, component basis, e.g., showers only, or laundries, or billeting and kitchen components only.

In 2007, the possibility of making the FP system more *expeditionary* was evaluated to augment Army efforts in the Global War on Terror (GWOT), particularly in Iraq and Afghanistan. Expeditionary in this context refers to the following: the ability to rapidly deploy and employ capability to an operational area without the increased burden of requiring a significant support structure to execute the move as would be required with the current FP system design. Overall capability to support 600 soldiers has remained constant. Expeditionary efforts and employment strategy are discussed later in this chapter.

## **2. Force Provider Defined**

The FP system has been defined in many ways. FP is basically a “city in a box” because the system is packed in a series of containers that, when unpacked and placed into an operating configuration, provide food, shelter and housing. The “modular” aspect of the system ensures across-system connectivity, including the ability to increase systems and support more than the 600-person base camp. It is also being described as a System of Systems (SoS) because it is made up of a myriad of interrelated components that work together to provide a larger overall capability.

The Product Management Office responsible for delivering the FP system from production is Product Manager Force Sustainment Systems, Natick Massachusetts. The FP system, as articulated by that office is, in essence, a small city. It is categorized as the “Army’s Premier Base Camp designed to provide the total infrastructure and life-support

capabilities necessary to support a contingent of 600 occupants.” Force Provider is a compilation of military and commercial products and contains all the materiel necessary to provide climate-controlled billeting, quality food and dining facilities, hygiene services, and Morale, Welfare and Recreation (MWR) facilities to the occupants. When deployed, it can be operated by either a military unit or a civilian service contractor. Force Provider comes complete with water and fuel storage, a power generation and distribution system, and a wastewater collection and storage system. Force Provider is containerized and preconfigured, facilitating movement by any combination of land, air and sea transportation.



Figure 1. Force Provider Base Camp

### 3. Components of Force Provider

Each FP system with accompanying kits contains about 38,000 items and is an integrated collection of major and subcomponents (laundries, showers, latrines and dining facilities), including thousands of individual pieces (plumbing, cables, tents, bunk beds etc.) packed into 119 triple containers (TRICON) and ten International Organization for Standardization (ISO) containers. Each major subcomponent provides stand-alone functionality and, if required, the components can be deployed independently versus deploying the entire system. Each FP container requires a forklift to offload and place

components in their respective camp locations. The two primary add-ons are the cold weather kits and the prime power kits. The cold weather kit provides additional heating capability into the billeting, administrative and MWR facilities when operating at temperatures below 32 degrees Fahrenheit. The prime power kit is designed to connect to a host nation power source and minimizes the need to rely on the many tactical generators that would otherwise be used to provide electricity to the camp. The chart below highlights capabilities of each major FP component.

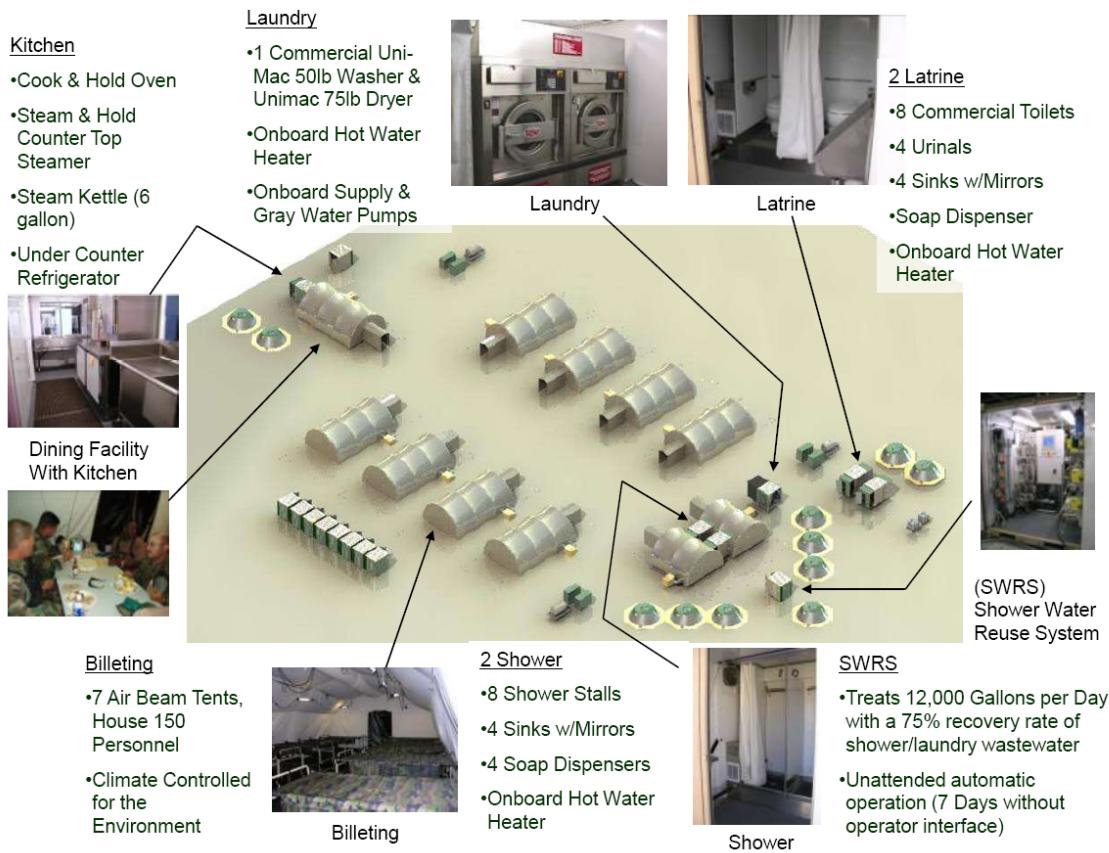


Figure 2. Force Provider Major Subsystems

#### 4. Employment Strategy

FP can be transported to required locations by land, sea or air. Once the designated area of operations (AO) is identified, the ground commander requests FP

system deployment through the Army G3 office by completing a mission needs statement (MNS). The requirement is transferred to the Army G4 who then issues deployment guidance to the Army Materiel Command (AMC) and the Natick Integrated Logistics Support Center (ILSC). The Natick ILSC prepares the transportation documents. If the system is to be deployed overseas continental U.S. (OCONUS), it is delivered to a seaport of embarkation (SPOE) for ship loading or an aerial port of embarkation (APOE) for military aircraft transportation. If the system is deployed in CONUS, it is transported using commercial ground transportation. Once delivered to the AO, the system is unpacked, set up and prepared to receive occupants. A typical Base Camp requires approximately five to ten acres of land. Site preparation takes three to four days, with the entire camp fully operational in approximately seven days. The chart below provides a snapshot of the deployment process and events necessary to deploy an FP system.

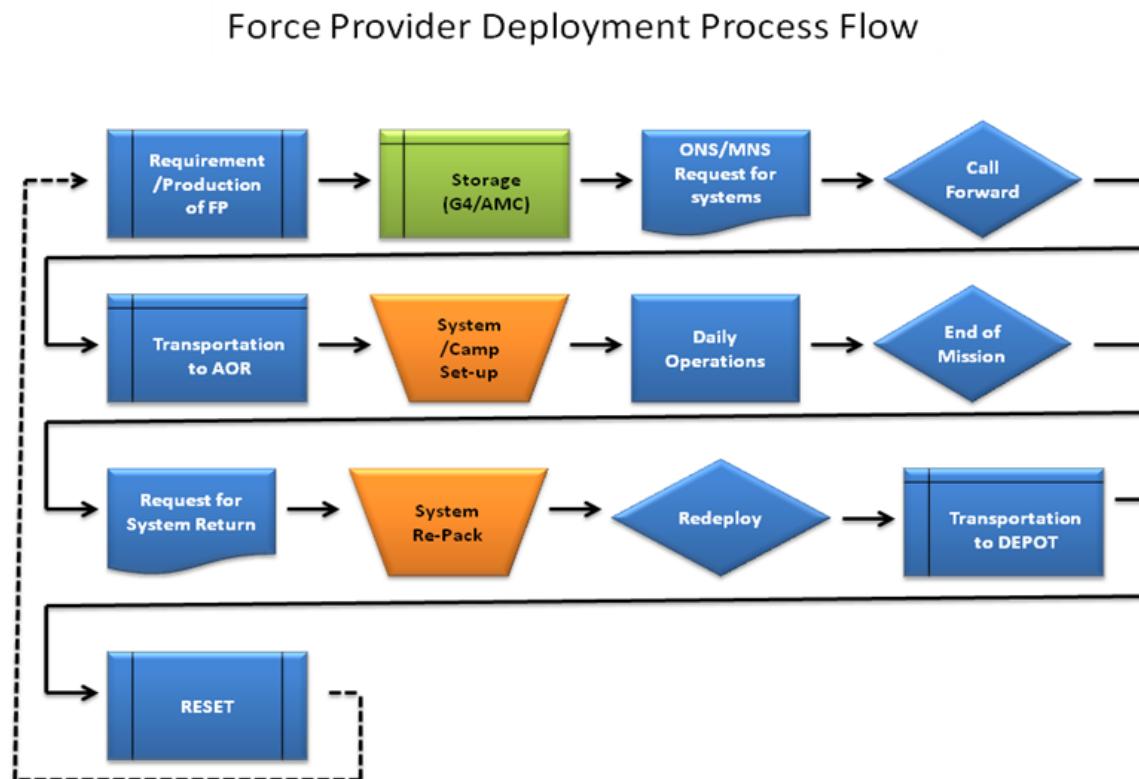


Figure 3. Force Provider Deployment Process Flow

## **5. Force Provider Accountability Requirements**

Army Regulation (AR 735-5) defines accountability as “the obligation of a person to keep records of property, documents, or funds. These records show identification data, gains, losses, dues-in, dues-out, and balances on hand or in use.” The accountability requirement for FP is no different from any other piece of equipment that is classified as a major item and is assigned to a unit. Once a unit receives the FP system, personnel are required to enter the item onto their organizational property records to conform to Army supply policy and regulations for asset management. This record, known as the property book, serves as the accountability document for the unit and allows the Army to have TAV of all the systems assigned to the unit. When accounting for FP, an organization uses the Line Item Number (LIN) format and National Stock Number (NSN) that was assigned for the FP system when it was developed, and enters the information into their Property Book Unit Supply Enterprise (PBUSE) database. When the LIN and NSN are used to account for the end item system, the organizational unit is not required to account separately for all of the subcomponents that make up the FP system as individual entries to their property book record. They are required, however, to maintain a component listing that identifies all items that come with the complete system for inventory and accountability purposes. The requirement to document and maintain active accountability of the FP system remains in effect for the duration of operations and is maintained until the system is RESET. The chart below identifies the current process used to establish accountability for the FP systems deployed in support of OEF and OIF.

## Force Provider Deployment Process Flow

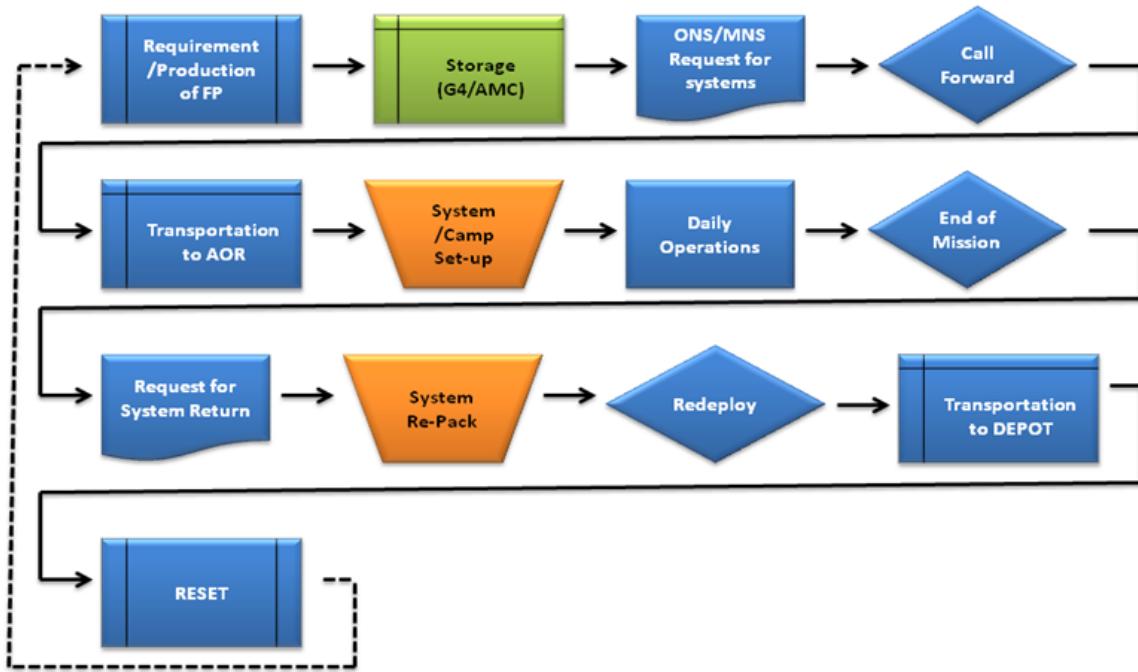


Figure 4. Force Provider Accountability Process

## 6. Force Provider Ownership

The FP Army War Reserve asset is deployed to specific AOs as determined by Army leadership through a combatant commander request process. Army War reserve assets are owned by the Army G4 and are transferred to the control of AMC for depot storage and maintenance. Upon deployment, the system becomes the responsibility of the requesting unit for accountability and operations purposes. However, the Army G4 continues to maintain oversight and provides all directives in terms of movement and use authorization. While under the control of the combatant commander, the asset can be transferred to either a military organization or a civilian contractor who is charged with operating the system in support of a specific requirement. Once the assets are no longer needed, the Army G4 provides redeployment guidance to the using unit and AMC for de-processing and eventual return to CONUS to undergo RESET. When the system enters RESET, the AMC becomes the responsible agent of the Army to manage and execute all

efforts to return the system back to full operational capability, including an ultimate end state of placing the item back into depot storage or preparing the system for follow-on missions.

## **7. Force Provider De-processing**

The de-processing requirement is undertaken when the combatant commander makes a decision that the FP system is no longer required to support a given camp. This could be a result of the camp being shut down or when a more permanent capability is planned to replace the temporary FP capabilities. When the decision is made to remove FP, all assets are inventoried by a joint team (using organization, AMC and TAT team) and the components that are capable of being returned are re-packed into their containers and transported back to CONUS. An inventory list is established, and all shortages are identified. Identified shortages are submitted to AMC and the program office to begin the process of reprocuring missing components in preparation for RESET.

## **8. Force Provider RESET**

RESET is defined as a set of actions to restore equipment to a level of combat capability commensurate with a unit's future mission. The three components of RESET are:

- Replacement: The purchase of new equipment to replace battle losses, worn out or obsolete equipment, and critical equipment deployed and left in theater, but needed for homeland defense, homeland security and other critical missions.
- Recapitalization: A rebuild effort that extends the equipment's useful life by returning it to a near "zero mile/zero hour" condition, either with the original performance specifications or with upgraded performance specifications.
- Repair: A repair or overhaul effort that returns the equipment's condition to the Army standard. It includes the Special Technical Inspection and Repair Program of aircraft.

In terms of FP, the primary efforts undertaken are the replacement and repair functions needed to return the system back to full operational capability. When FP systems are returned by the user, an inventory is conducted at the RESET location and a determination is made regarding the cost and effort necessary to bring FP back to a complete system. Once funded, actions are taken to return the system into a deployable state. These efforts include reprocuring missing components and repairing any damaged components. These functions take up to 16 months (depending on the level of effort needed for a given system) to return some systems back to full operations.

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### **III. DATA**

#### **A. INTRODUCTION**

The data presented in this chapter documents the Army's accountability guidance as it applies to the operational deployment of FP, tracing accountability from pre-deployment through redeployment and FP RESET. Financial implications resulting from the existing accountability processes and RESET requirements are also presented. The responsibility to account for Army property is well documented in many Army Regulations (AR) and Department of the Army Pamphlets (DA PAM). This chapter defines the various classification of Army property; defines the term *System of Systems* (SoS) and its relationship to FP; presents the relevant guidance on property accountability within the Army; describes the current accountability process used for FP in support of the Global War on Terror (GWOT); discusses financial liability due to loss; determines ownership of FP based on personal interviews and applicable guidance; and finally, identifies the costs associated with RESET of the FP system.

#### **B. CLASSIFICATION OF PROPERTY**

The classification and rules associated with accounting for Army property are found in AR 710-2<sup>1</sup>. This AR identifies three distinct classifications of property types within the Army and provides guidance on the requirements necessary to account for each. The three classifications types are expendable, durable, and non-expendable. The level of asset visibility required for each type of item depends greatly on the purpose and cost of the item. Below is a broader description of each property classification.

---

<sup>1</sup> Army Regulation 710-2, Supply Policy Below the National Level, Chapter 2, March 28, 2008.

### **1. Expendable Items**

AR 735-5<sup>2</sup> defines this type of property as an item that is “consumed in use, or loses its identity in use. It includes items not consumed in use, with a unit cost of less than \$300.” Expendable items are, in essence, small-dollar procurements such as office supplies or one-time use systems that, due to their employment strategy, may cost more to recover and repair than to replace. An example of a one-time use item is a low-cost aerial delivery system designed to drop food and other products in support of humanitarian operations. Though there is a cost established for procuring the system, there is no requirement to account for the item after it has been issued to the user because it will not be recovered to use again. In this example, the item is considered a loss when it departs the aircraft to support the humanitarian mission.

### **2. Durable Item**

AR 735-5 states that durable property is "property that is not consumed in use, does not require property book accountability, but because of its unique characteristics requires control when issued to the user." When accounting for durable items, organizations will use a hand receipt or hand receipt annex as a record to maintain visibility of the item. Durable items have use beyond just a onetime effort. In addition, these items could be considered highly desired and pilferable. An example of a durable item is a tool. Some tools may cost less than \$100 to procure (such as a hand tool), but because of their potential for use beyond military application, they are required to have higher visibility in terms of accounting.

### **3. Non-expendable Items**

Lastly, the non-expendable classification type items require the most robust accountability requirement. Nonexpendable property is not consumed in use and retains its original identity during the period of use. Nonexpendable property requires formal accountability throughout the life of the item. These items will be accounted for at the unit level, using property book procedures identified in AR 710-2. These items are

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<sup>2</sup> Army Regulation 735-5, Policies and Procedures for Property Accountability, Chapter 7, February 28, 2005.

normally associated with high-dollar procurements that, from a valuation standpoint, require intense management and oversight. An example of a non-expendable item would be a tank. The reason for intense accounting of this type of system is the capability provided to the Army, in terms of firepower, to include the cost to the government to procure. Non-expendable items are considered an *investment* to the Army, as opposed to an *expense* for items classified as expendable and durable. In short, investments require continuous management and oversight at higher Army levels to maintain visibility — as contrasted with expensed items, which require only low-level oversight and documentation of the item procurement action.

### C. SYSTEM OF SYSTEMS RELATIONSHIP TO FP

The Chairman of the Joint Chief Chiefs of Staff Instruction (CJCSI) 3170.01F<sup>3</sup> defines a SoS as “a set or arrangement of interdependent systems that are related or connected to provide a given capability. The loss of any part of the system could significantly degrade the performance or capabilities of the whole.” As discussed in the background section of this paper, the FP system is configured and deployed as a series of containers and major sub-systems that, when unpacked and erected at the desired location, provide the complete life-support capability for its intended user. When major sub-components are removed from the system by operational commanders to support other missions, the ability of the system to provide the support it was designed for becomes degraded.

### D. PROPERTY ACCOUNTABILITY GUIDANCE

Accountability of property is an essential part of military operations. If a unit cannot maintain visibility and oversight of issued equipment, the likelihood of the unit being prepared to conduct military operations is significantly hampered. Units operating the FP system are no different in this respect. Because of the myriad of components that make up the FP system, any *loss*, regardless of the component, places a burden on the

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<sup>3</sup> Chairman of the Joint Chief Chiefs of Staff Instruction (CJCSI) 3170.01F 1 May 2007.

financial resources of the Army for replacement of the lost items. In terms of this paper, loss is considered the inability to accurately account for items by the person who is responsible for it.

Accountability. The obligation imposed by law, lawful order, or regulation, accepted by an organization or person for keeping accurate records, to ensure control of property, documents or funds, with or without physical possession. The obligation, in this context, refers to the fiduciary duties, responsibilities, and obligations necessary for protecting the public interest; however, it does not necessarily impose personal liability upon an organization or person.<sup>4</sup>

Property accountability rules are established within the Department of Defense (DoD) and apply to all branches of service. Specifically, Department of Defense Instruction (DoDI) 5000.64<sup>5</sup> establishes the overarching guidance to the military departments with regard to accounting for property. Expanding on the DoD guidance, each specific Service establishes their implementation regulations and procedures, conforming to the instructions from the DoD.

Several regulations and pamphlets cover property accountability and asset management within the Army. The primary regulation is AR 710-2<sup>6</sup>. This regulation provides the “policy for the accountability and assignment of responsibility for property issued to a unit.” In addition, it serves as the overarching guidance for supply operations and applies to both peace and war operations. To complement this regulation, the Army has established procedures for property accountability in AR 735-5<sup>7</sup>. This regulation provides detailed guidance on accountability procedures for property at all levels of the Army. In addition, it provides commanders with a robust understanding of their responsibilities in terms of managing property within their organizations in order to conform to Army policy.

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<sup>4</sup> Department of Defense Financial Management Regulation, Volume 12, Chapter 7, Definitions, March 2007.

<sup>5</sup> Department of Defense Instruction (DoDI) 5000.64, Accountability and Management of DoD-owned Equipment and Other Accountability Property, November 2, 2006.

<sup>6</sup> Army Regulation 710-2, Supply Policy Below the National Level, March 28, 2008.

<sup>7</sup> Army Regulation 735-5, Policies and Procedures for Property Accountability, February 28, 2005.

In times of war or emergencies, the Secretary of the Army prescribes the policy on wartime accountability for Army units. These policies prescribe using unit property accounting requirements. Though the majority of property accountability as defined in AR 710-2 remains in effect, the major change from peacetime is that only those records and files needed to give the commander current, authorized, and on-hand equipment status need be maintained. In addition, the requirement for inspections and inventories ceases. Based on the policy, inventories are only required in order to assess the availability and condition of the unit's property, as opposed to peacetime inventories, which are conducted on a monthly and annual basis. Maintaining accountability of assigned items is not changed, however, and neither is the requirement to report lost items.

While all of the afore-mentioned guidance applies to FP, specific accountability guidance for the Force Provider (FP) system only appears in Field Manual (FM) 42-424<sup>8</sup>. This FM is the overarching document that provides Army organizations planning guidance, and an understanding of the mission capabilities and limitations of using FP. The manual addresses the general requirement to account for the property when the system is under the control of a unit or civilian contractor.

## **E. DEPLOYMENT ACCOUNTABILITY PROCESS**

### **1. Flow**

The FP accountability process was briefly discussed in the previous chapter. The information on the process was extracted through personal interviews with members of the Product Manager Force Sustainment Systems (PM FSS) Technical Assistance Team (TAT) located in Natick, Massachusetts. The PM FSS TAT is the field representative to the PM organization that supports the initial FP system set-up at the deployed location, and also conducts tri-annual, on-the-ground assessments of the systems. The assessments are designed to assess FP system *wear and tear* from operational demands, and to provide valuable data to the PM FSS office and the Integrated Logistics Support

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<sup>8</sup> Field Manual 42-424, Quartermaster Force provider Company, August 6, 1999.

Center (ILSC). Either the PM FSS office or the ILSC is charged with supporting the system while deployed. Figure 5 provides an overview of the accountability process for FP in support of GWOT.

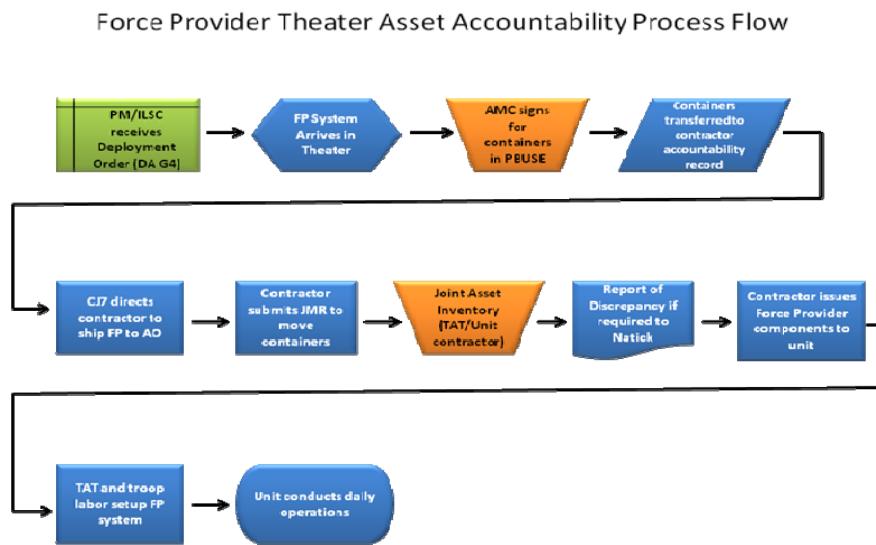


Figure 5. Accountability Process (GWOT)

The deployment process begins when an operational command identifies a need for the FP system to the Army G3/4 through either an Operational Needs Statement (ONS) or Mission Needs Statement (MNS). The Army G3 has the “Army General Staff responsibility for strategy formulation, overall force development, individual and unit training policy, the functional aspects of strategic and tactical command and control systems, nuclear and chemical matters, and establishing requirements and priorities for the employment and sustenance of Army forces.”<sup>9</sup> The Army G4 is the Deputy Chief of Staff for Logistics and “enhances Soldier logistics readiness by providing integrated policies and programs to maintain a ready Army that can be sustained in the joint operating environment.”<sup>10</sup>

<sup>9</sup> Deputy Chief of Staff G-3/5/7 <https://www.g357extranet.army.pentagon.mil/DCSExtranet/> (Accessed 13 August 2008).

<sup>10</sup> United States Army Deputy Chief of Staff, G-4, U.S. Army Logistics <http://www.hqda.army.mil/logweb/aboutus1.htm> (Accessed 13 August 2008).

Once FP employment is approved, either the PM FSS office or ILSC prepares the system for transportation to the required location. The system will be sent directly from either the production facilities, RESET facilities, or storage to the SPOD or APOD (depending on how quickly the system needs to get to the location). Once the system enters the transportation pipeline, accountability is transferred to the transportation agency through the use of shipping documents. After delivery to the designated entry point in the area of operations (AO), accountability is transferred to the AO responsible agency (in this case, the Army Material Command representative). The agency loads the system information onto the Property Book Unit Supply Enterprise (PBUSE) and prepares the system for final movement from the entry point to the location where it will be set up and operated.

Once at the final emplacement location where the system will be used by a military organization, a joint inventory is conducted between the TAT, user organization, and AMC representatives to account for the property and transfer authority from AMC to the using organization. During the joint inventory, an inventory list is used to verify that all the components that make up FP are present. If there is a discrepancy, between the inventory listing and the actual inventory, the shortages are identified and a report of discrepancy (ROD) is issued by the using organization. The ROD is submitted to the AMC representatives and actions are undertaken to replace the missing components. Otherwise, the unit signs for the property short and notes the missing components.

In situations where the system is to be operated by a contract service provider as part of the Logistics Civilian Augmentation Program (LOGCAP), the service provider conducts an inventory of the components with members of AMC. Once the camp is established, the service provider assumes responsibility for the system as part of their responsibilities under the contract. In addition to assuming responsibility, the LOGCAP contractors are required to maintain the same accountability requirements as an Army unit would, while the systems are under their control.

Under all scenarios, once the system is fully inventoried, it is recorded onto an accountability document maintained by the accepting organization. The transfer of accountability is accomplished through a lateral transfer process in PBUSE, which is

designed to maintain asset visibility of the equipment under the control of either the unit or contractor. Once in their control, standard property accountability rules defined in the AR and DA PAM related to supply policy apply. The *owner* of the property is responsible to adhere to these policies until they either transfer the system to another organization, or the system is returned for RESET. In the case where the system is being returned, joint inventories are conducted between the FP owner and designated transporter as accountability is transferred to transportation entities and, eventually, to FP RESET authorities. *Owner*, in terms of this paper, is defined as the responsible organization charged with maintaining supply accountability of the systems under their operational control.

## **2. Transfer of Property Accountability in Uncommon Situations**

A Relief-in-Place – Transfer of Authority (RIP/TOA) is conducted when an organization that is supporting an operation is replaced by a new organization that assumes the ongoing mission and accountability of the FP assets. As part of the sequence of events, a 100% physical inventory is conducted between the new and old organization to account for all items being transferred from one unit to another. The inventory ensures that the equipment to be transferred is physically present prior to the new organization assuming responsibility for the items. If the equipment is not present during the inventory, the shortages are identified and documented. This shortage document serves as the input to possible investigations that may lead to the imposition of financial liability against the unit being replaced as a result of them losing accountability of assigned equipment.

As depicted in Figure 6, there are two options for conducting a RIP-TOA for FP systems. The first scenario is a transfer between military units. This is the case when a unit charged with responsibility to operate and account for the system is to be replaced with another military unit that assumes that same mission. In this case, the transfer of the FP system is executed between both organizations and discrepancies are identified and documented. When the replacing organization is a LOGCAP contractor instead of a military unit, the inventory of equipment is conducted between the unit and the contractor

organization. In addition to these two parties, the TAT team would also participate to ensure that all equipment that is required to support the mission is present. Inclusion of the TAT team precludes any contractual issues that could arise from the contractor not having all assets needed to support the mission specified in the contract.

#### **Relief in Place/Transfer of Authority (RIP/TOA) Accountability Process**

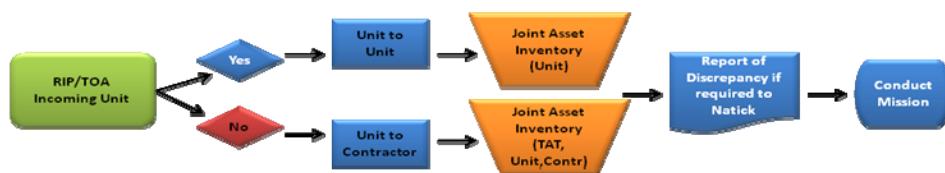


Figure 6. RIP/TOA Process

### **3. Organizational Challenges When Accounting for FP**

The largest challenge to FP system users is the necessity to account for the myriad of FP system components. As described earlier in this chapter, the using unit or organization has a responsibility to account for items under their control. As discussed in the background of this paper, however, FP has approximately 30,000 individual parts packed into a series of containers that are shipped to a using location. The configuration of these containers is both end item sub-systems, including laundries, showers, kitchens and transportation containers that are packed with ancillary items needed to erect the total system. Organizations receiving these containers are oftentimes unaware of what is inside each container; even though an inventory list is present, there is no organizational understanding on how to account effectively for these items. Discussions with the PM FSS TAT, revealed that most of the units operating FP are unaware of their responsibility to maintain active accountability of all FP components. They take the approach that as long as they have accounted for the item at the top level, they are, in essence, meeting the requirement of accountability.

Standard accountability practices require accountability of not only the main system, but also any sub-system and components that make up the main system. The FP design precludes individual classification for the majority of the sub-systems. In addition, few users are familiar with these sub-systems or how to correctly add these items to their property book. Many complex systems or System of Systems (SoS) develop and place a list of the systems components on a central Army database repository. With the FP system, however, there is no such documentation. As a result, an organization that is unfamiliar with FP finds it difficult to accurately account for all of the items in the system.

Adding to the accountability challenge is the fact that many of the FP components are displaced from their initial operation location. At the direction of commanders, the components are moved to other camps within the AO. Based on discussion with the TAT, this occurs when a specific FP capability, such as power generation, is no longer needed at the initial, authorized location. When the equipment is moved, the unit originally responsible for the FP system transfers the accountability of those items to a new using organization. When the Army makes a decision to return the FP system for RESET, the transferred items are rarely returned and the unit authorized the use of FP is forced to return an incomplete system back to the Army.

#### **4. Relevant Example of FP Accountability Issues**

In November 2004, the U.S. Army Audit Agency (AAA) conducted an audit on LOGCAP at the request of the Commanding General, U.S. Army Materiel Command.<sup>11</sup> The audit was part of a greater, Army-wide effort related to asset management. The audit focused on numerous LOGCAP functions undertaken in support of the GWOT. More specifically, it considered management of assets under the control of LOGCAP, which were used to perform their mission, as per the contract.

The audit provided a somewhat eye-opening picture of LOGCAP's asset management procedures and highlighted one of the major problems as being the

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<sup>11</sup> U.S. Army Audit Agency Audit report: A-2005-043-ALE (Logistics Civil Augmentation Program in Kuwait).

management of FP assets. In the document, the auditors found that “the Army lost full accountability over twelve FP modules worth about \$75.6 million.” It also recommended that the Army needed to regain full accountability of these assets. The document further identified that there were no joint inventories conducted that could have identified missing components and alleviated the loss of equipment. Finally, recommendations were made by the AAA regarding the procedures that need to be incorporated into the statement of work dealing with responsibility and accountability of government equipment used by contractors.

#### **F. PERTINENT INTERVIEWS AND GUIDANCE ON OWNERSHIP OF FP**

Members of the Army G4 and the AMC organizations responsible for overseeing FP held discussions in an attempt to obtain information on the ownership of the system when it is deployed to support contingency operations. In addition, several written questions were provided to members of these organizations (Appendix) in order to understand the process of system deployment to include any relevant guidance that may be provided to units that receive the FP system. The discussions revealed that there is no specific guidance provided to the using units, other than the Army’s approval to loan the systems in support of the request from the field. In addition, it appears from the discussion that the operational commanders have significant flexibility to determine the employment and use of the FP system while it is under their control.

In terms of property accountability of FP while deployed to support operations, discussions indicated that there is no specific written guidance that instructs organizations on what their responsibility will be while the system is under their control. Discussions also revealed that standard Army property accountability rules are applicable, and those units should be familiar with the regulations that cover supply accountability.

#### **G. FINANCIAL LIABILITY**

The Department of Defense Financial Management Regulation prescribes the “requirements to investigate any Loss, Damage or Destruction (LDD) or government

property”<sup>12</sup> and imposes, when applicable, financial liability on the individual or entity responsible for ensuring accountability of the property. This regulation further specifies the requirement to the military services to establish policies and procedures regarding financial liability when there is an LDD of government property under their control.

AR 735-5 and AR 710-2 provide a detailed process to be used in both peacetime and wartime operations when determining financial liability when there is LDD of Army property. In both situations, when the accountability of an item under the care and responsibility of a military unit, individual or contractor is lost, a financial liability investigation is required. The AR’s indicate that an investigation of the loss is required to occur within fifteen calendar days of discovering the discrepancy. The purpose of this investigation is to gather facts to document the circumstances regarding the LDD of government property. For military personnel, if the government investigation determines that negligence or misconduct was the driving factor in the LDD, financial liability may be imposed against the individual or entity responsible for the item. The financial liability attempts to recoup the cost of the item that must now be replaced due to the loss.

When the loss of Army property is attributed to a service contractor — who is required to maintain property accountability — the identification of loss will be forward to the contracting officer for remediation in accordance with Federal Acquisition Regulation (FAR). The contracting officer will be the individual responsible for conducting the investigation into the loss of equipment and will make a decision in terms of liability. If the contracting officer determines that the loss requires compensation to the government, the contractor will be issued a formal letter identifying the decision and the demand for payment. In this case, the contracting officer’s decision is final — unless the contractor disputes the findings and appeals under the disputes clause of the contract.

## **H. RESET**

Discussions were held with the Natick ILSC RESET Team to obtain information on efforts undertaken to RESET the FP system back to full operational capability once they are returned from their deployment location. Discussions attempted to gain: an

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<sup>12</sup> Department of Defense Financial Management Regulation.

understanding of the challenges to the RESET program due to: equipment not being returned; the number of FP systems that have been RESET to date; the corresponding costs to RESET the FP system since the program began; the average number of systems available for use; and the average time necessary to RESET an FP system in order to be prepared to deploy again.

### **1. Challenges to the RESET Program**

In 2005, the ILSC RESET Team began efforts to RESET FP systems that had been deployed in support of OIF/OEF. The base assumption used by the ILSC RESET Team at the time was that all major components deployed as part of an FP system would return when the Army made a decision to redeploy assets from an operational theater. This assumption was used to estimate the expense of bringing an FP system back to an operational state so it can be prepared for follow-on missions. The same assumption is used today for all modules still deployed in support of operations.

Though the assumptions appeared reasonable at the time, history has shown that the systems are often returned with a significant number of components missing. These components need to be replaced in order to bring the system back to the intended end state. One of the challenges to the program is that no two systems are ever returned with the same equipment missing. Because of the unique design of FP, and the myriad of components that make up the system, attempting to establish a baseline RESET cost is difficult at best. Compounding the issue is that only so many dollars are available in a given year to conduct these types of RESET efforts. For those items not returned from their deployed location, reprocurement actions must be undertaken to repurchase the components in order to complete the system. Costs above the forecasted budget (projected at \$7.1M per module) cause an immediate, unfunded requirement to the Army and affects the ability of the RESET Team to turn the system around quickly.

### **2. Number of Force Provider Modules Reset**

Since 2005, nineteen FP systems have undergone some type of RESET effort to prepare for follow-on missions. All of these systems have been redeployed to locations around the world and are still in use today. In speaking with the ILSC, it is anticipated

that there will be an annual requirement to RESET at least two FP systems per year for the near future. This prediction is based on the number of systems currently deployed (approximately thirty) and others that are either in storage or in the process of being procured. The total Army objective is fifty-three systems, although this number could increase or decrease depending on available funding and items that are considered *washouts*. A washout, in this case, is when the cost to RESET the system exceeds 65% of the total procurement cost for a typical FP system (at present, \$7.1M).

### **3. RESET Expenditures**

This information is based on interview with the ILSC Reset Team Leader. The difference in per module price was due to numerous factors to include the condition of the modules returned from Theater, possible configuration changes, price changes on parts, and labor increases at Letterkenney Army Depot (one of the locations that conducts the RESET function).

2005: 2 Modules @ \$3.9M = Total \$7.8M

2006: 7 Modules @ \$4.3M = Total \$4.3M

2007: 4 Modules @ \$5.5M = Total \$22M

2008: 6 Modules @ \$7.1M = Total \$42.6M

### **4. RESET Budget Increases**

Budget planning for RESET managers is difficult because no two systems are returned in the same condition due to the use and environments in which they were operated. According to the ILSC Reset Team Leader, the cost of items required to be reprocured can increase by 40 to 50 percent over what was initially spent to procure the item. In addition, the fact that the more expensive components are anticipated to be returned for RESET, the requirement to replace these items results in an increase to the projected budget. The following table is a depiction of some of the components that were not returned for a single module currently undergoing RESET. The information was obtained from the ILSC RESET Team and is used as an example of requirements to reprocure assets to restore an FP system back to full operational capability:

Nomenclature	# Required	# Returned	# Missing	% Loss
Environmental Control Units	56	42	14	25
Generators	26	6	20	80
Latrines	8	5	3	40
Showers	8	5	3	40
Kitchens	4	3	1	25
Laundry	4	3	1	25

Table 1. Table 1 Missing FP Components

The following table represents the increased FP component costs<sup>13</sup> to the RESET program, comparing typical RESET cost with reprocurement cost.

Nomenclature	Reset Cost	New Procurement	Increase
Environmental Control Units	\$99,120	\$165,200	\$66,080
Generators	348,700	\$581,220	\$232,520
Latrines	\$108,000	\$180,000	\$72,000
Showers	\$117,000	\$195,000	\$78,000
Kitchens	\$54,000	\$90,000	\$36,000
Laundry	\$48,000	\$80,000	\$32,000
Total Increase			\$516,600

Table 2. RESET Cost Growth

What is depicted in the above tables is only a portion of the items that are not returned from the deployed location. Based on discussions with the ILSC RESET Team, other items not returned often result in a 25-50% increase to the total planned RESET budget, which is estimated to be \$7.1M.

##### **5. Average Number of FP Systems Available for Deployment at Any Given Time (Quarterly Basis)**

Information is based on an interview with the ILSC FP Reset Liaison as well as historical RESET reports. These numbers do not reflect six Force Provider Modules (in

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<sup>13</sup> RESET cost figures were provided by the ILSC RESET Team and were calculated using a conservative estimate of 60% of the new procurement cost.

older configuration) located in Army Prepositioned Stock, which Army G3 and G4 have reserved for future contingencies and are not available for current operations.

3Q/FY06: 3 Modules

4Q/FY06: 1 Module

1Q/FY07: 3 Modules

3Q/FY07: 0 Modules

4Q/FY07: 3 Modules

1Q/FY08: 3 Modules

2Q/FY08: 3 Modules

4Q/FY08: 5 Modules

The non-availability of modules in 3Q/FY07 is a direct reflection of the impact the troop surge had on levels of inventory. A total of nine (600-man) modules and a 150-man module prototype Force Providers were used to support this surge in OEF/OIF.

## **6. Average Time Required to RESET an FP System**

The time required to RESET an FP system varies depending on what the system looks like when it returns from deployment and what the shortages are determined to be after the items are inventoried. In a perfect scenario where all items are returned (uncommon), the anticipated time to return a system back to the Army is approximately six to nine months. In those cases where items have to be reprocured, the time can increase to six to twelve months and maybe longer. The reason for the increase in time is due to having to reprocure the components that are not standard Army items. Since no production line exists for these items, the time necessary to contract for and manufacture the items often results in a slip in schedule.

## **IV. ANALYSIS, CONCLUSIONS AND RECOMMENDATIONS**

This chapter is subdivided into two parts; Part I: Analysis of FP data and Part II: Conclusions and Recommendations based on the information presented throughout the paper. To assist the reader, an introduction paragraph is provided at the beginning of each section, covering the scope of information that is discussed within the specific part of the chapter. At the end of both the analysis and conclusion parts, a brief summary is provided to include recommended areas for further study.

### **A. PART I: ANALYSIS**

#### **1. Introduction**

This section is intended to provide an analysis of the research data regarding the FP system and the challenges faced in accounting for the system when it is deployed to support operations. The information in this section concentrates on whether FP is a SoS; whether current property guidance is effective in maintaining accountability of the FP system; whether there are gaps in the deployment accountability process; the ownership of FP when deployed; whether the current operational guidance provides the user with sufficient information to manage FP; the financial liability impacts to the Army; and whether FP RESET costs can be minimized.

#### **2. FP as a System of Systems**

The definition of a SoS was discussed briefly in the data chapter. Though the definition was extracted from a single source, the basic tenet applies to many other definitions relative to SoS. The main point gleaned is that, in order to be considered a SoS, there must be a significant performance degradation of system capabilities if there is a loss of any part of the system. In the case of FP, parts of the SoS definition are applicable because any loss of the major sub-components degrades the capability of the whole system to perform its intended mission of providing full-scale life support capability to the user.

Unlike other major complex systems (such as tank or communications platforms that rely heavily on the integration and operation of the separate components in order to provide a specific end state capability), the FP system is designed as a robust set of capabilities that can be added to, or removed, and still provide some, but not all, functional capabilities to the user. The fundamental problem with attempting to define FP as a true SoS is that there have been instances where the FP system has been deployed in functional segments, based on the user's mission demands. On other occasions, certain major sub-components (showers, laundry, billeting and power generation) that make up the higher level system, have been displaced from the deployed AO and operated at locations away from the main system set. Though this type of event is generally the exception rather than the rule, the loss of the components did not result in a major disruption of services.

Another point to be drawn is that the basic design of the FP system is as a temporary asset to provide capabilities at a given location until more permanent facilities can be built. As a camp is being established, the FP system provides a valuable capability in that all the life-support requirements for the user arrive at one time. After the FP is placed into full operations, certain FP functions will be replaced when a more permanent infrastructure is built. When the sub-systems that provide these functions are no longer required, they are either packed back into their shipping containers or moved by operational commanders to locations that require those specific assets.

The analysis conducted on the FP design and mission intent validate that degradation of specific functions is inherent to the design and does not significantly impact the ability of FP to perform a required mission. As such, the literal use of SoS to define the FP system is not necessarily accurate. A more appropriate definition would be as a reconfigurable, modular capability that can be mission-tailored to the needs of the user.

### **3. Property Accountability Guidance**

A review of the applicable guidance on property accountability within the Army concluded that property accountability guidance is clearly articulated in numerous documents and regulations published within the DoD. More specifically, the Army has two overarching regulations (AR 710-2 and AR 735-5) that provide property users with the requirements to maintain asset visibility and accountability of equipment assigned to their organization.

Every organization within the Army has the same inherent responsibility to account for and manage property under their control, regardless of whether they are authorized a piece of equipment or not. The rules for accounting for the FP system are no different. Even though no organization is truly “authorized” an FP system due to its designation as a temporary-need, wartime asset, the fact that the equipment is loaned to a specific organization provides that unit with the authorization and, therefore, the responsibility to account for the item.

The broader challenge to the using organization is related to the effectiveness of accounting for the system and the myriad of components that make up the system. Property accountability rules require the item to be placed on the organization’s property records and controls to be established that would maintain asset visibility of all the items that make up FP. Unfortunately, units that are permitted to use the FP system have never been responsible for accounting for anything like the FP system. In addition, the guidelines associated with property accountability do not specifically address the requirements to account for this type of reconfigurable asset in total.

What is clear from relevant discussion with the PM FSS TAT is that accountability of the FP system is not conducted in the same way at all user locations. Some locations simply list the system on their property book at the top level; others break down the system into major components and list these separately on their property book. In either case, property accountability continues to be a challenge. The lack of specific guidance on how a unit should capture the system, in terms of accountability, needs to be better defined.

#### **4. Ownership and Guidance on FP**

In discussions with representatives of the Army G4 and AMC, it was identified that FP is “owned” by the Army G4 as a war reserve asset and managed by AMC. During the production process, PM Force Sustainment Systems is responsible for delivering the system to either Army prepositioned stock or to a user, based on Army directives. Once the system is approved for use, based on an ONS/MNS, and arrives at an operational location, the unit or organization authorized to use the system becomes the “owner” during the time specified in the approval documentation. It was noted that the great majority of organizations that use FP are not authorized the system to be part of their organizational equipment. To these units, the FP system is “loaned” from the Army for the duration of time approved in the ONS/MNS. It was indicated that, once approved, the using organization has the flexibility to employ the FP system as they deem appropriate to perform their required mission.

In the approval to loan the FP asset, it appears as though the written guidance the Army provides to the using organization only specifies the approval timeline. In addition, the approval provides directives to AMC to prepare and ship the system to the desired location. The instructions apparently do not provide any specific guidance on the responsibility and requirements to maintain accountability for FP. Neither do they provide specific instructions on what should occur if the organizations decide to break the system apart and use components of FP at locations other than those approved in the ONS/MNS.

Due to the lack of specific guidance on the use and accountability of FP, and the fact that the system is often approved by the Army for use by organizations that have never had any experience with using the FP system, the challenges associated with accounting for FP by using units are magnified. Though the argument could be presented that standard property accountability rules apply, the fact that accountability challenges have been occurring with the FP system (such as items not being returned to undergo RESET) validates that a more structured protocol is needed to provide the gaining units with the expectations of the Army in terms of accountability and return of this system.

## 5. Accountability Process Flow

### a. Normal Flow of Equipment

The accountability flow for FP was discussed in section E of the data chapter. The information was obtained through discussions with the FP TAT, and Figure 6 of the same chapter depicts how the FP system moves from the PM/ILSC to the using organization. Though the process appears smooth on the surface, there are some gaps in both inventory and accountability as the system moves through the process. Supply policy regulations require continuous accountability of equipment as it moves from organization to organization. Figure 7 identifies where these gaps appear in terms of the process.

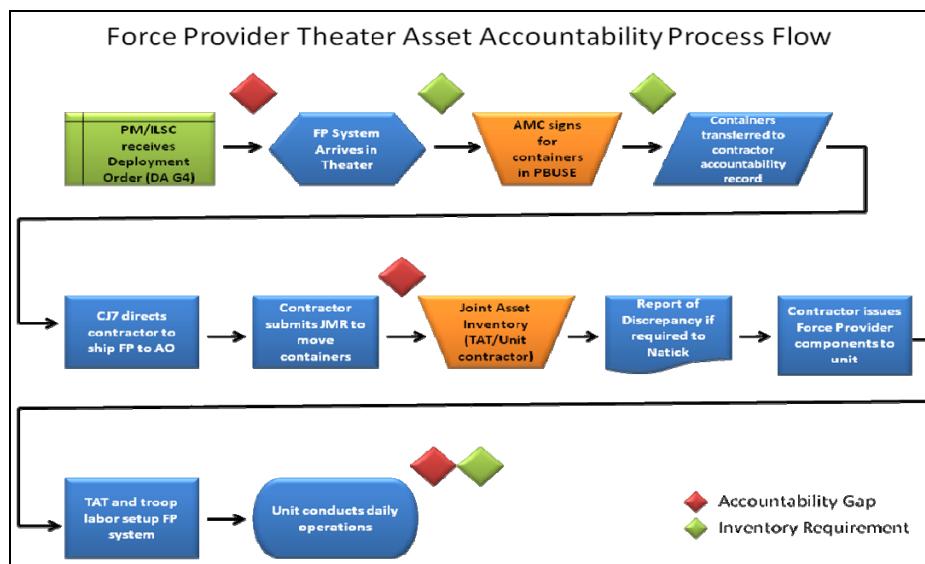


Figure 7. Process Flow Gap

FP systems are shipped to the user location through either land, sea, or air. Once the system is transferred to the transportation agency, there is a responsibility on the part of the PM/ILSC to provide shipping documents to the agency so accountability can be established. In this case, the shipping document becomes the accountability record while the FP is in transit. In terms of responsibility, the transportation agency assumes responsibility for the FP system while in transit, and transfers responsibility when the system arrives at its designated entry point.

Once at the entry point, and prior to AMC entering the system onto the PBUSE database, an inventory is required to validate that all the components are present prior to accepting responsibility of the system from the transportation agency. Accepting responsibility for the FP system without validation (inventory), will result in the gaining organization assuming all liability for the components that fall under FP. If shortages are subsequently identified after assuming responsibility, it will be difficult to establish where the loss occurred, and the organization that accepted responsibility would most likely be held responsible for the loss.

As the FP system is transferred within the AO to the final destination where it will be operated, by either a unit or contractor, the shipping documents once again become the accountability record. As was the case with liability when the system was shipped from CONUS, the transportation agency assumes accountability of the system until it is transferred to the gaining organization. Once at the location, the receiving unit conducts an inventory and identifies shortages. From that point forward, the using unit establishes operations of the FP system and has the inherent responsibility to maintain accountability of the system until it is either transferred to another organization or repacked to be returned to CONUS for RESET.

*b.      RIP/TOA*

When a RIP/TOA is conducted, the process flow identified in Figure 7 of the data chapter also has some gaps. These gaps are identified in Figure 8.

## Relief In Place/Transfer of Authority (RIP/TOA) Accountability Process

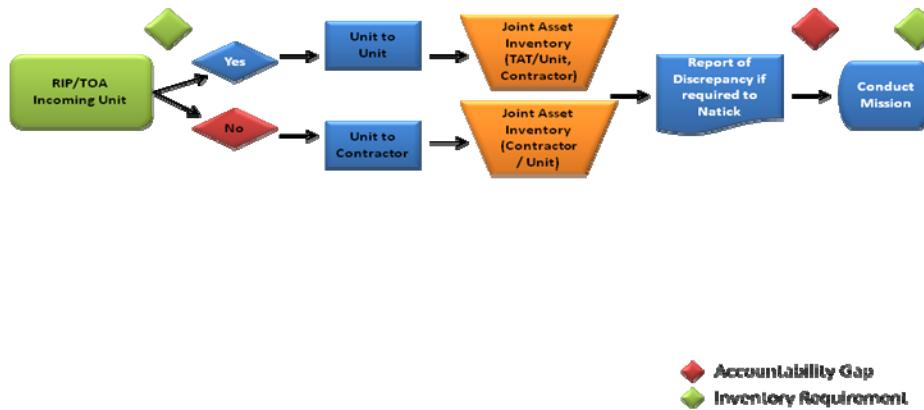


Figure 8. RIP/TOA Gap

Figure 8 identifies that when a RIP/TOA is to be conducted, the owning organization (in this case, the unit that will be transferring FP) should conduct an inventory to determine if there are any shortages or loss of major items prior to transferring the system. These shortages should be noted on a shortage document and, if the shortages are due to loss (some shortages may be due to the items being classified as expendable), the loss of the major items must be investigated and financial liability determined. Once the system is transferred to the gaining unit, the gaining unit assumes responsibility and accountability for the FP system, minus those items that have been identified as a loss. At the end of the process, the shortage document and a list of the items that were lost will be sent to the PM/ILSC for remediation. Those agencies will consult with the Army G4 and AMC who will make a determination on whether to re-ship items to fill the shortages or to document that the lost items will not be returned when the specific system redeployed to undergo RESET.

## 6. Financial Liability

Identifying the circumstances that led to a loss, damage or destruction of government property either through a lack of accountability or negligence, is a

requirement prescribed in the DoD Financial Management Regulation.<sup>14</sup> This same requirement is further outlined in the Army property accountability regulations. In the case of the FP system, attempts were made to obtain historical data on instances where financial liability was imposed on a unit or contractor who lost items that were part of the system. Unfortunately, no data was available that would indicate that the required investigations were ever conducted, or that liability has ever been imposed against any FP user organization.

When discussing RESET efforts with members of the PM office and Natick ILSC, it was verified that there have been numerous occasions where major components that make up the FP system were never returned by the user. In addition, it was further identified that those systems that were not returned had to be reprocured by the Army in order to make the FP system whole as it was reconstituted through the stages of RESET. What can be drawn from these discussions is that there was either a decision made by operational commanders to continue to use FP assets to perform missions outside the original loan authorization provided by the Army or, there was a loss of accountability of these systems and, as a result, the systems could not be returned.

In either case, an investigation should have been conducted in an attempt to determine why the components were never returned. If an investigation revealed that the systems were still required to perform a mission, a request should have been submitted to the Army G4 by the using unit to retain the items. If the investigation resulted in a finding that the systems were lost, the last organization responsible for the FP system prior to it being shipped back for RESET should have been held liable for the loss and the resulting costs to reprocure the missing components.

## **7. Reset Analysis**

Lack of accountability of FP components while deployed leads to numerous challenges. These include the inability to perform the FP mission while deployed; the availability of systems to support new contingencies or to further support ongoing

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<sup>14</sup> Department of Defense Financial Management Regulation, Volume 12, Chapter 7, March 2007.

operations; and budget shortfalls to RESET planners when components not returned for RESET must be reprocured due to the loss or accountability lapses noted earlier.

*a. Mission Capability*

As with any military equipment, soldiers and units are impacted to some extent by the availability of equipment, whether weapons, vehicles, night optical devices, etc. FP is not an exception. While difficult to determine when the system is non-mission capable, it is clearly evident that if critical components are either not available or are missing, the soldiers well being will be impacted. The ILSC RESET Team, along with the PM FSS TAT, created a readiness matrix as an enclosure to a Memorandum of Agreement between PM FSS and the Natick ILSC. This matrix (Attachment A) shows objective, threshold, and non-mission capable parameters for a given component within the FP system. It is clear that not accounting for and, in essence, losing components of deployed assets can quickly and negatively impact a system's capability to provide life-support functions to the soldiers that depend on the FP system.

*b. Availability of Modules*

As identified in the data section, the turnaround time to complete a RESET of an FP system and return it to inventory stock is impacted by the number of components received back from the deployment area. When components that are planned to be RESET are not returned, these assets must be reprocured, increasing the time to RESET by as much as three months (a 25 percent increase). As shown in the data section, there have been instances where limited systems are available in times of need, as the surge of 2007 demonstrated. The fact that no systems were available for any new contingency or other ongoing operations, required the Army to fund two new procurements of FP ,which obviously required a larger expense.

*c. RESET Budget Increases*

Identified in Table 1 and Table 2 of the data chapter are the FP items historically not returned for RESET, either because the responsible organization lost them, or an operational commander decided to keep them. In addition, the tables show

the costs associated with having to reprocure these components to make the system whole again. What is apparent is that the loss of asset accountability, or decisions by operational commanders to not return FP components, result in a larger, and arguably needless, financial cost to the RESET program for reconstituting FP assets to be redeployed.

## **B. PART II: CONCLUSIONS, RECOMMENDATIONS AND AREAS FOR FURTHER RESEARCH**

### **1. Introduction**

This section provides conclusions drawn after careful study of the accountability process required for, and undertaken by, units charged with using and accounting for the FP system. The study encompassed two functions: 1) Review of all pertinent data on the FP system design, mission and use, 2) Analysis of the current accountability process used for FP throughout the deployment cycle and consequences resulting from loss of accountability. The conclusions are discussed with regard to the research questions that were posed earlier in this Joint Applied Project.

#### **a. Primary Question**

What are the U.S. Army property accountability rules and procedures concerning the Force Provider System, and how is accountability guidance communicated and carried out among FP-using organizations? Addressing these issues required dissecting the question into three pertinent parts. Each part was unique and required enough data and analysis to support a sound conclusion. The three parts of the question, with conclusions for each, are provided below.

**(1). What are the property rules for accounting for Army property?** Research and analysis of relevant material results in the conclusion that property accountability rules have been established and published to provide organizations and users throughout the Army with a step-by-step process to account for any item that has value to the government. The basic rule extracted from these documents is that all property (regardless of type) procured to meet an intended mission or use must be accounted for on some form of accountability document. This document

(hand receipt or database) serves in essence as the paper trail. From initial production or receipt of an item, it follows the item through transfer from one entity to another and eventually to disposal and removal from the Army inventory.

**(2). Communication of accountability guidance.** The overarching theme derived from data obtained — from past articles and discussions with personnel who have deployed into theater to support the FP system — is that there clearly appears to be a gap between what is required to be done, and what is actually occurring in terms of accounting for the FP system during deployments. From the aspect of whether accountability guidance is communicated, the answer is both *yes* and *no*: *Yes* to the fact that Army accountability rules and guidance rules are in place, and that they require organizations to account for all Army property; *No* to the fact that specific instructions on how to account for the FP system — from arrival in theater to ultimate return to stocks — are not provided at the time the system is authorized for use. The largest challenge appears to be that users in the field consider FP as a conglomeration of pieces and parts. Their knowledge of accounting for a system like this is minimal, at best. Standard accountability practices require accountability of not only the major system but also the components that make up the system. The challenge to the FP user is that the components of FP are listed only on an inventory list and are not found on any component listing tied to the system as a whole. In addition, unlike other complex systems that place their component listings on a central database repository for access by authorized users of the items, there is no such documentation for the FP system. As a result, the ability to account for all of the items that make up the system is difficult. What is certain is that most of the accountability issues surrounding FP can be traced to the lack of instruction provided when the system is authorized for release by the Army G4. When a system is deployed to support a specific contingency operation, the authorization to release the system does not provide instruction to the using command on how they should account for and track the system components. Nor are there instructions provided to gaining commanders that limit or restrict their authority to retain and re-purpose FP components beyond the original loan terms.

**(3). Compliance to accountability rules.** In addition to the lack of guidance, the system configuration of the FP system may pose an inherent challenge to units required to account for the system. This is due to the composition of the system and the fact that the major components that comprise FP are not individually accounted for per se. When an organization receives the FP system, it receives a myriad of containers that make up the system; these are considered as one entity for accountability purposes. Consequently, these FP component containers have no individual identity to the user, and the receiving organization is forced to account for the system at the top-level configuration. This configuration does not easily lend itself to be further subdivided other than to use the NSN for the major systems. This could be due to the components not having a standard LIN that would allow easy entry onto a property book account.

Though some of the users take it upon themselves to build component lists for the FP system in order to ease accountability and inventory requirements, this does not appear to be the standard practice. What appears to be common, based on discussions with the PM FSS TAT, is that some organizations are entering the FP system onto their property book only at the top level system and using this entry to validate that they have accountability for the asset. This process provides the opportunity to manipulate the accountability process and occurs because there is no singular directive that provides users with the guidance necessary to account for the system at a lower, component level. When it comes to visibility at the higher level, it appears as though accounting for FP as a top-level system is an acceptable approach. However, this approach only lends credibility to the challenges associated with maintaining total asset visibility of the FP systems. Also, it can easily translate into a significant cost burden to the Army when having to replace components that are missing upon return to undergo RESET. Because the system is not managed below the FP system (top) level, there also appears to be no financial liability imposed to those units or organizations that lose accountability of the components that make up the FP system.

*b. Subsidiary Questions*

**(1). To what extent is Force Provider (FP) a system of systems (SoS), and how effective are accountability procedures in terms of accomplishing accountability goals and adapting to changing environmental factors?** The Chairman of the Joint Chief Chiefs of Staff Instruction (CJCSI) 3170.01F dated May 1, 2007, defines a SoS as “a set or arrangement of interdependent systems that are related or connected to provide a given capability. The loss of any part of the system could significantly degrade the performance or capabilities of the whole.”<sup>15</sup> One could argue that the SoS definition is applicable to FP because of the way the FP is constructed and deployed as a series of containers that, when connected together, provides complete functionality for its intended user. The most relevant point in considering FP as a SoS is the impact to the system when major FP subcomponents are removed. Some functionality continues to provide a benefit to the occupants; however, the degradation of services that can be provided in an otherwise complete system could be considered a detriment to the overall mission performance and effectiveness of FP. Considering this impact to FP as the sole validation that it is a SoS, however, is not sufficient in the broader picture. There have been times when FP was deployed to support operations, but not all of the major components were used in support of the mission. This is because the FP system can be deployed to a myriad of locations that may already have infrastructure capabilities capable of providing functionality that is part of FP. Though this is more of an exception than a rule, the fact that the system is not dependent on each of the major components to perform relevant missions would preclude it from being defined as an actual SoS.

In terms of effective accountability of the FP system when deployed, there appears to be an inconsistent approach based on where the system is deployed and who is responsible for the accountability of the system (units or contracted service providers). What is clear is that a significant number of systems have been deployed in support of operations since 2002, and the effectiveness of the processes in

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<sup>15</sup> Chairman of the Joint Chiefs of Staff Instruction.

place to account for all of the items components of the system is wanting. This is validated by the 2004 AAA audit that determined that the Army lost full accountability of twelve FP systems worth in excess of \$75M. In addition, there is a continued increase in the cost to RESET the system due to the need to procure assets that are not returned. One reason for the cost increase could be attributed to equipment that is in disrepair; it is more cost effective to reprocure new components than attempt to repair old ones. However, this is more of an exception. More typically, the using unit is not returning assets due to loss of accountability or, making a formal decision to retain selected FP components for missions outside of the loan agreement. Either way, this poses a substantial problem to the Army.

**(2). How does not accounting for FP items at the component level affect the FP system?** Force Provider has numerous components that need to be accounted for in order to maintain the integrity of the system from an asset visibility standpoint. What has been concluded from the data and analysis related to the accountability of FP is that the current way of doing business is ineffective. Because most units that receive the FP system account for the item only at the top system level, they oftentimes lose sight of the fact that the components are a critical piece of the system that may be needed in other operations. The level of oversight of these components is not as robust as it could be. Not accounting for the FP system at the component level results in a greater likelihood of these items being removed from their location and moved to other areas. When this occurs, the system's ability to provide its intended capabilities is greatly hampered. In addition, the loss of these components to support other missions causes a significant challenge for the Army (both operationally and financially) when a decision is made to redeploy the system or send it back to undergo RESET. The operational impact comes from the inability to move the complete system to another user organization that has established a priority need for it. The financial impact results from having to reprocure assets that were removed without proper authorization and the resulting loss of accountability.

**(3). How is FP ownership described and operationalized?**

**There is no clear guidance on ownership of the FP system.** What is known is that the system is produced by a singular product office. Once produced, the system is transferred to either storage or to an operational location based on the Army G4 directive. If placed into storage, the responsible agent for maintaining the integrity of the system (accountability and maintenance) is the Army Materiel Command (AMC). If the system is deployed to support a specific operation, the organization that received approval by the Army G4 to use the FP system becomes the owner of the item and, by DoD and Army guidance, accountable. Unfortunately, the lines of authority and decision making become unclear. Organizations using the FP system believe that they have the authority to redeploy assets as they deem appropriate in order to satisfy their mission need. AMC believes that they have the responsibility to manage the systems when they are deployed (especially when a contractor is charged with operating the system) and are the responsible agents to ensure that the system integrity is maintained. In either case, what is evident is that formal guidance and policy should be established by the authorizing organization (Army G4) to provide the using organizations information on what they can and cannot do with the systems under their operational control

**(4). What is the impact of losing FP components to operational commanders?** The impact of losing components comes in two forms: increased reprocurement costs of the items that are lost to commanders, and a lack of the Army's ability to quickly redeploy a module in RESET due to the lead time necessary to reprocure items. Both of these impacts result from either a loss of accountability at the user level or a decision by operational commanders to retain FP components. The reprocurement costs are those necessary to obtain a replacement component that has not been returned, regardless of directives provided to return the system to RESET. These are typically unplanned costs because the base assumption is that all components will be returned to Army management when a decision is made that the FP systems are no longer necessary to support a specific operation. These costs are fluid and depend on how well a system is managed and accounted for throughout the deployment, operational use, and redeployment cycle. When total accountability is maintained by the user, the data

indicates that these costs are typically low. When accountability is not enforced, these costs have the potential to increase substantially. The Army has established a base cost to RESET and FP system at \$7.1M. These costs consider the historical efforts necessary to bring a typical system to full operational capability. This cost does not include reprocurement costs for lost components or those that have been retained beyond the loan agreement.

The Army's ability to quickly redeploy FP systems from RESET is hampered when these systems do not return from deployments with all of their components. The data indicates that, for those systems that have all assets returned for RESET, the turnaround time is approximately nine months from the time the system is received at the RESET site. For those FP systems that require components to be reprocured, the RESET schedule may be lengthened up to eighteen months, depending on the lead time necessary to obtain the items. Because there are only so many FP systems available to be deployed at a given time, any delays in getting the system out of RESET places a burden on the organizations that need the system to effectively conduct operations.

**(5). How are FP utilization decisions described and operationalized when deployed?** The research shows that no clear guidance is provided by the Army to organizations approved to receive an FP system to meet their operational needs. It appears that when the authorizing agency releases the FP system from either storage or production, their interaction with the gaining command ceases until either the gaining command or the authorizing agency requests that the system to be returned. As a result, the decision to move assets of FP from one location to another is solely at the discretion of the using organization.

*c. Recommendations*

Improvements must be implemented with regard to the accountability of the FP system when deployed in support of operations. In an effort to prevent some of the ongoing accountability challenges the Army faces when systems are deployed, the following two recommendations are made:

**(1). When an FP system is approved to be deployed in support of an operation or mission, clear guidance needs to be provided to the gaining organization on the requirements to account for the entire system (to include major subcomponents).** In addition, whenever a system is received by a using organization, all components should be identified and added to the lateral transfer documentation that transfers accountability from storage or production to the using organization. This lateral transfer documentation should be signed by the gaining unit and a copy maintained at the approval source. Lastly, whenever a component is to be removed from the FP system in order to be used at another location, information should be sent to the approving organization and the component should be placed on a hand receipt from the original user to ensure accountability. This process will allow for significantly improved accountability and will ensure that financial liability is imposed to the proper organization in the event the system is either lost or destroyed.

**(2). The configuration of the FP system should consider an approach that breaks out the major components of FP and makes each an independent, separately accountable system.** The ability to account for the items as independent systems forces a higher level of accountability since these components would most likely be classified as a major item. The current process of considering these systems as components of FP places a significant burden on using organizations that are not necessarily familiar with the significant number of components and equipment comprising an FP system. In addition to making these systems stand-alone items, efforts should be undertaken to build an Army-approved component listing that will be forwarded to the gaining unit so that these components can be placed onto the unit's property book to ensure better accountability in the future.

### **3. Summary**

The challenges faced by the Army when attempting to account for the Force Provider System when deployed in support of an operation are not new. What is clear is from the findings in this paper is that in order to facilitate improvements to the FP accountability process, clear written guidance must be established and provided to those

organizations responsible for using the deployed system. Though processes and procedures relative to accounting for Army property are clearly documented in numerous regulations, adherence to these procedures must be mandated at all levels of command. Without command oversight and involvement in the FP accountability efforts, the challenges faced today will undoubtedly continue.

#### **4. Areas for Further Research**

Though this project examined the accountability challenges related to the FP system, there are other areas that could be considered for further study.

First, one of the areas that was outside the scope of this research is an analysis of the force structure needed to support an FP system and whether organizations should be charged and resourced with the sole mission of deploying, operating, and accounting for the FP system. Having a singular responsible organization that deploys and returns with the system after operational use allows for a greater likelihood that the system will be accounted for and visibility of all the components maintained.

Second, though financial impacts were addressed in this paper and were specifically focused on RESET cost growth, a more in-depth analysis on the total ownership cost of the FP system (production costs through RESET) should be undertaken. This type of analysis may provide the Army with a better picture of the financial requirements needed to resource the total procurement objective and determine whether future systems like this are affordable.

## APPENDIX

**Enclosure 2: Force Provider Readiness Matrix**

FP READINESS MATRIX (per 550 soldier camp)					
Period Of Performance:					
SYSTEMS	NOMENCLATURE	NSN/PART #	OBJECTIVE	THRESHOLD	SYSTEMS MISSION CAPABILITY RATING (SEE FOOTNOTE 1)
WATER	Tank, Fabric, Collapsible, 20K Gallon, Potable *	5430-01-432-6304	4	3	≤ 2 = red rating
	Pump Assembly, Containerized Shower	513/6761	6	4	
	Hypochlorination Units *	4610-01-435-4884	4	2	≤ 1 = red rating
	Hose Assembly, Heat Trace, 1-1/2 x 75 Ft.	9-1-0612	12	12	
	Hose Assembly, Heat Trace, 1-1/4 x 25 Ft.	9-1-0610	8	8	
	Hose Assembly, Heat Trace, 2-1/2 x 75 Ft.	9-1-0608	8	8	
	Tent, TEMPER, TY IV, 32 FT.	8340-01-196-6272	6	2	
	Tent, TEMPER, TY XX, 64 FT.	8340-01-445-4705	6	5	
HOUSING/ SHELTER					
	Tent, TEMPER, TY IV, 32 FT. *	8340-01-196-6272	36	33	≤ 28 = red rating
POWER/ FUEL					
	Generator Set, 60kW *	6115-01-462-0291	24	18	≤ 18 = red rating
	Transformer, Pad Mounted *	HH37B/71CA376EF	10	9	≤ 9 = red rating
	Fuel System (FP)	9-1-0561-1	1	1	
	Electrical Feeder System, PDISE M-100	6150-01-308-5671	30	28	
	Tank, Fabric, Collapsible, Fuel Storage, 10K Gallon	5430-01-485-8336	4	2	
	TEMPER Electrical Distribution Box, Type III	6110-01-251-0402	49	44	
HVAC					
	Heater, 120K BTUH, ASH	4520-01-367-2739	68	59	
	Air Conditioner ASSY, 54K BTUH	4120-01-432-6408	52	47	
SUPPORT SYSTEMS					
	Containerized Latrine System	4510-01-477-7764	4	3	
	Containerized Shower Assembly *	4510-01-477-7763	2	1	zero (0) = red rating
	Tent, TEMPER, TY XII, 16 FT. Modified	8340-01-257-8472	2	1	
	Heater, Water, Liquid Fuel, M-80	4520-01-162-0385	5	3	
KITCHEN					
	Oven Baking and Roasting	7310-01-420-6851	2	2	
	Tilt Fry Pan	7310-00-758-8564	1	1	
	Steam Kettle, 20Gallon	7310-01-384-8312	1	1	
	Cabinet, Food Warming	7310-00815-1443	1	1	

**NOTE:** Parameters for Mission Capability (MC) ratings are based on Force Provider's ORD mission requirements.

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**Enclosure 2: Force Provider Readiness Matrix**

SYSTEMS	NOMENCLATURE	NSN/PART #	OBJECTIVE	THRESHOLD	SYSTEMS MISSION CAPABILITY RATING (SEE FOOTNOTE 1)	FP CAMP MISSION CAPABILITY RATING (SEE FOOTNOTE 2)
	Griddle, Large	HEG-48D	1	1		
	Trap Assembly, Grease	9-1-0562	2	1		
	Refrigerator, 600 cubic foot *	4110-01-166-3579	2	2		zero (0) = red rating
	Refrigeration, Unit Mechanical 10K BTUH *	4110-01-289-9182	2	2		zero (0) = red rating
	Refrigerator, Mechanical, Food 20 cubic foot *	4110-01-412-3996	1	1		zero (0) = red rating
	Ice Making Machine	CME506AS-32D	4	4		
	Tent, TEMPER, TY XIX, 32 FT	8340-01-443-7330	2	2		
	Tent, TEMPER, TY XV, 48 FT *	8340-01-325-0131	1	1		zero (0) = red rating
	Tent, TEMPER, TY XVIII, 96 FT	8340-01-443-7342	1	1		
<b>WASTE WATER</b>						
	Waste Water Evacuation Tank/Trailer	4630-01-513-8155	2	2		
	Tank, Fabric, Collapsible, 20K Gallon, WW	5430-01-434-0765	3	1		
	Pump, Trash Centrifugal	255YR	2	1		
	Sewage Ejection Pump, Waste Water Evacuation *	4630-01-505-3746	5	4		zero (0) = red rating
<b>FOOTNOTES:</b>						
1) SYSTEMS MISSION CAPABILITY RATING						
GREEN: meets /equals (=) objective/exceeds (> than) threshold						
AMBER: meets>equals (>) threshold						
RED: below (< than) threshold						
2) FP CAMP MISSION CAPABILITY RATING						
GREEN: All systems meets (=) or exceeds (> than) threshold						
AMBER: All systems falls below (< than) threshold						
RED: Pacing Items (identified with a *) are red						
FP Camp will be Non-Mission Capable when pacing items (*) have a red rating						

**NOTE:** Parameters for Mission Capability (MC) ratings  
are based on Force Provider's ORD mission requirements.

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